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•		Application No.	Applicant(s)	,, ,
4	Notice of Allowability	10/614,538	CHEN ET AL.	
		Examiner	Art Unit	
		Jennifer M. Dolan	2813	
herewi NOTIC	The MAILING DATE of this communication apms being allowable, PROSECUTION ON THE MERITS ith (or previously mailed), a Notice of Allowance (PTOL-EE OF ALLOWABILITY IS NOT A GRANT OF PATENT Office or upon petition by the applicant. See 37 CFR 1.3	IS (OR REMAINS) CLOSED in 85) or other appropriate comm relights. This application is	n this application. If not included unication will be mailed in due cou	rse. THIS
1. 🛛	This communication is responsive to RCE/Amdt of 3/10	<u>//05</u> .		
2. 🛛	The allowed claim(s) is/are <u>1-49</u> .			
3. 🛛	The drawings filed on <u>10 March 2004</u> are accepted by t	he Examiner.		
4. 🗆 1	Acknowledgment is made of a claim for foreign priority  a)  All b)  Some* c)  None of the:  1.  Certified copies of the priority documents here.	ave been received. ave been received in Application	on No	
3. Copies of the certified copies of the priority documents have been received in this national stage application from the				
	International Bureau (PCT Rule 17.2(a)).			
	* Certified copies not received:	•		
noted	icant has THREE MONTHS FROM THE "MAILING DAT d below. Failure to timely comply will result in ABANDO THREE-MONTH PERIOD IS NOT EXTENDABLE.		a reply complying with the require	ements
	A SUBSTITUTE OATH OR DECLARATION must be su INFORMAL PATENT APPLICATION (PTO-152) which			ICE OF
6. 🔲	CORRECTED DRAWINGS ( as "replacement sheets") r	must be submitted.		
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached				
	1)  hereto or 2)  to Paper No./Mail Date			
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date				
	ntifying indicia such as the application number (see 37 CF ch sheet. Replacement sheet(s) should be labeled as such			ck) of
	DEPOSIT OF and/or INFORMATION about the de attached Examiner's comment regarding REQUIREMENT			e the
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	nment(s) Notice of References Cited (PTO-892)	5 Motion of Ir	formal Patent Application (PTO-1	
	Notice of References Cited (P10-692) Notice of Draftperson's Patent Drawing Review (PTO-94	- · <u>=</u>	ummary (PTO-413),	JZ)
		Paper No.	/Mail Date	
	nformation Disclosure Statements (PTO-1449 or PTO/S Paper No./Mail Date <u>3-<b>IO</b></u> -05	•	Amendment/Comment	
	Examiner's Comment Regarding Requirement for Depos		Statement of Reasons for Allowa	nce
of	Biological Material	9. ☐ Other	<b>_</b> •	
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## **DETAILED ACTION**

## Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/10/05 has been entered.

## Allowable Subject Matter

- 2. Claims 1-49 are allowed.
- 3. The following is an examiner's statement of reasons for allowance:

The primary reason for allowance is the inclusion of limitations to the effect that the silicide layers have local metal-rich areas from which metal oxynitride extrusions project. The prior art of record (see JP 06-021440 to Abiko) teaches semiconductor gate structures having a polysilicon layer, a tungsten silicide layer thereon, and a titanium silicide layer on the tungsten silicide layer, as claimed. Abiko, however, does not teach the presence of local metal-rich areas from which metal oxynitride protrusions extend. There is some evidence in the prior art (see U.S. Patent No. 4,957,590 to Douglas or 6,013,569 to Lur) that silicide processes will leave unreacted metal layers that subsequently form nitrides or oxynitrides, and that such layers can be removed by etching. These references, however, only teach entire layers of unreacted metal, and Art Unit: 2813

do not in any way anticipate small-scale local metal rich areas on the side of a silicide layer from which oxynitride filaments project. Hence, due to the differences expected in the motivations and methods for removing an entire layer of metal nitride evenly covering a silicide layer and the motivations and methods for removing small local filaments of metal oxynitride projecting directly from a silicide layer, the teachings of Douglas or Lur cannot be applied against the presently amended claims.

Since the present invention addresses a known problem in the art of localized shorting of small-scale devices from small oxynitride filaments projecting from the sides of silicide layers, and since the prior art does not teach the claim limitations addressed supra, it is the examiner's opinion that the claimed invention would not have been obvious to a person having ordinary skill in the art.

- 4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."
- 5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer M. Dolan whose telephone number is (571) 272-1690. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Carl W. Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer M. Dolan

Examiner

Art Unit 2813

imd

CRAIG A. THOMPSON PRIMARY EXAMINER

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